



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/064,134	06/13/2002	Michael John Bowman	123251	3229

6147 7590 12/15/2003

GENERAL ELECTRIC COMPANY  
GLOBAL RESEARCH CENTER  
PATENT DOCKET RM. 4A59  
PO BOX 8, BLDG. K-1 ROSS  
NISKAYUNA, NY 12309

EXAMINER

KALAFUT, STEPHEN J

ART UNIT	PAPER NUMBER
----------	--------------

1745

DATE MAILED: 12/15/2003

3

Please find below and/or attached an Office communication concerning this application or proceeding.

3 KB

**Office Action Summary**

Application No.

10/064,134

Applicant(s)

BOWMAN ET AL.

Examiner

Stephen J. Kalafut

Art Unit

1745

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-9, 16 and 17 is/are allowed.
- 6) ☒ Claim(s) 1-4, 10-15 and 18-20 is/are rejected.
- 7) ☒ Claim(s) 1-22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Art Unit: 1745

Claims 1-4, 10-15 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 1, whether "a working fluid" in lines 1 and 2 is the same as "a working fluid" in line 5 is unclear. In claim 10, whether "a working fluid" in line 1 is the same as "a working fluid" in line 11 is unclear. In claim 13, whether "a working fluid" in line 1 is the same as "a working fluid" in line 10 is unclear. Claims 2-4, 11, 12, 14 and 15 depend from these claims and would likewise be indefinite. There is no antecedent for "said hybrid fuel cell" in claim 18. Is this the "fuel cell" in claim 16?

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 13-15, 19 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by British 1,572,204.

The British Patent Specification discloses a steam generator (15) used to power a turbine (7), which drives an electric generator (6). The steam turbine and electric generator would constitute a power-generating device. The steam generator houses a resistance heater (16), which would be both a resistor and an electrical dissipation device. The resistance heater is electrically connected via bus (2) and a switch (17) to the electric generator, and it thus in contact with this generator and the turbine. Since the resistance heater boils water (page 3, lines 98-

101), thus transferring heat thereto, the steam generator and the associated water/steam pipes (figure 1) would also be a dissipation device cooling system, and thus to some extent provide thermal control to the dissipation device, while the water/steam stream itself would be a working fluid in contact with both the electrical dissipation device and the power-generating device. The system also includes several valves (10, 21, 26). In operation, part of the working fluid (water and/or steam) would be directed to the electrical dissipation device (16) and would to some extent, provide thermal control thereto. Since the water is boiled in the steam generator by the action of the resistance heater (15), there would be flow of the working fluid across the heater when there is electric current flowing through it.

Claims 1-4, 19 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Awata *et al.* (Japanese 54-162,248).

Awata *et al.* disclose a turbine (9) which drives an electrical generator (10), which provides electricity to an electric heater (15), which would be a type of resistor, as well as to a separate resistor (11). The electrical generator and turbine would constitute a power-generating device. The heater would thus be in contact with the power-generating device. The heater provides heat to a gas (abstract, lines 6-8), which then drives the turbine. The gas would be a working fluid. Part of this fluid is provided to the heater, and while absorbing heat therefrom would cool the heater, and thus to some extent provide thermal control thereto. The gas flow path would constitute a dissipation device cooling system. The system also includes a valve (7). In operation, part of the working fluid (gas) would be directed to the electrical dissipation device (15) and would to some extent, provide thermal control thereto. Since the device (15) heats the

flowing gas, there would be flow of the working fluid across the heater when there is electric current flowing through it.

Claims 5-9, 16 and 17 are allowed. The prior art cited above, below, or by applicants, does not disclose a control system operating in response to a condition of the turbine generator, in combination also with a fuel cell, an electrical dissipation device, and dissipation device cooling system.

Claims 10-12 and 18 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action. The prior art cited also does not disclose a compressor or a combustor connected thereto, in combination with a turbine generator, electrical dissipation device, and dissipation device cooling system. Claim 18 depends from allowable claim 16.

Claims 21 and 22 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. These claims also recite a control system which responds to a condition of the turbine or turbine generator.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Basel *et al.* (US 6,641,946), Fuesser *et al.* (US 6,101,715), Flores (US 5,701,751) and Asakawa (US 5,086,829) disclose various arrangements for cooling electrical devices.

Claims 1-22 are objected to because of the following informalities: There needs to be a space between the period after each numeral, and the first word of each claim. In claim 1, "fluidintake" should be two words. Appropriate correction is required.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen J. Kalafut whose telephone number is 703-308-0433. The examiner can normally be reached on Mon-Fri 8:00 am-4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on 703-308-2383. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

sjk

  
STEPHEN KALAFUT  
PRIMARY EXAMINER  
GROUP

1700